

In the Specification:

Please replace the paragraph beginning at page 17, line 21 with the following:

a1
--MXR1 polymorphic variants, alleles, and interspecies homologs that are substantially identical to MXR1 can also be isolated using MXR1 nucleic acid probes, and oligonucleotides under stringent hybridization conditions, by screening libraries. Alternatively, expression libraries can be used to clone MXR1 polymorphic variants, alleles, and interspecies homologs, by detecting homologs immunologically with antisera or purified antibodies made against MXR1, which also recognize and selectively bind to the MXR1 homolog.--

Please replace the paragraph beginning at page 17, line 28 with the following:

a2
--To make a cDNA library, one should choose a source that is rich in the *MXR1* mRNA, e.g., human colon carcinoma cells. Placenta tissue or fetal brain or liver tissue. The mRNA is then made into cDNA using reverse transcriptase, ligated into a recombinant vector, and transfected into a recombinant host for propagation, screening, and cloning. Methods for making and screening cDNA libraries are well known (see, e.g., Gubler & Hoffman, *Gene* 25:263-269 (1983); Sambrook et al. *supra*; Ausubel et al., *supra*).--

Please replace the paragraph beginning at page 18, line 3 with the following:

a3
--An alternative method of isolating *MXR1* nucleic acids and their homologs combines the use of synthetic oligonucleotide primers and amplification of an RNA or DNA template (see US Patents 4,683,195 and 4,683,202; *PCR Protocols: A Guide to Methods and Applications* (Innis et al., eds 1990)). Methods such as polymerase chain reaction (PCR) and ligase chain reaction (LCR) can be used to amplify

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CONT.-

nucleic acid sequences of ABC proteins directly from mRNA, from cDNA, from genomic libraries or cDNA libraries. Degenerate oligonucleotides can be designed to amplify ABC homologs using the sequences provided herein. Restriction endonuclease sites can be incorporated into the primers. PCR or other in vitro amplification methods may be useful, for example, to clone nucleic acid sequences that code for proteins to be expressed, to make nucleic acids to use as probes for detecting the presence of ABC protein encoding mRNA in physiological samples, for nucleic acid sequencing, or for other purposes. Genes amplified by the PCR reaction can be purified from agarose gels and cloned into an appropriate vector.--

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Please replace the paragraph beginning at page 19, line 7 with the following:

Q4

--To obtain high level expression of a cloned gene or nucleic acid, such as those cDNAs encoding the ABC protein MXR1, one typically subclones *MXR1* into an expression vector that contains a strong promoter to direct transcription, a transcription/translation terminator, and if for a nucleic acid encoding a protein, a ribosome binding site for translational initiation. Suitable bacterial promoters are well known in the art and described, e.g., in Sambrook *et al.* and Ausubel *et al.* Bacterial expression systems for expressing MXR1 are available in, e.g., *E. coli*, *Bacillus sp.*, and *Salmonella* (Palva *et al.*, *Gene* 22:229-235 (1983); Mosbach *et al.*, *Nature* 302:543-545 (1983). Kits for such expression systems are commercially available. Eukaryotic expression systems for mammalian cells, yeast, and insect cells are well known in the art and are also commercially available.--

Please replace the paragraph beginning at page 21, line 3 with the following:

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--Standard transfection methods are used to produce bacterial, mammalian, yeast or insect cell lines that express large quantities of MXR1 protein, which are then purified using standard techniques (see, e.g., Colley *et al.*, *J. Biol. Chem.*

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cont. -

264:17619-17622 (1989); *Guide to Protein Purification*, in *Methods in Enzymology*, vol. 182 (Deutscher, ed., 1990)). Transformation of eukaryotic and prokaryotic cells are performed according to standard techniques (*see, e.g.*, Morrison, *J. Bact.* 132:349-351 (1977); Clark-Curtiss & Curtiss, *Methods in Enzymology* 101:347-362 (Wu *et al.*, eds, 1983).--

Please replace the paragraph beginning at page 21, line 11 with the following:

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--Any of the well known procedures for introducing foreign nucleotide sequences into host cells may be used. These include the use of calcium phosphate transfection, polybrene, protoplast fusion, electroporation, liposomes, microinjection, plasma vectors, viral vectors and any of the other well known methods for introducing cloned genomic DNA, cDNA, synthetic DNA or other foreign genetic material into a host cell (*see, e.g.*, Sambrook *et al.*, *supra*). It is only necessary that the particular genetic engineering procedure used be capable of successfully introducing at least one gene into the host cell capable of expressing MXR1 protein.--

Please replace the paragraph beginning at page 27, line 16 with the following:

A7

--Thus, in accordance with preferred embodiments of this invention, preferred antisense molecules include oligonucleotides and oligonucleotide analogs that are hybridizable with *MXR1* mRNA. This relationship is commonly denominated as "antisense." The oligonucleotides and oligonucleotide analogs are able to inhibit the function of the RNA, either its translation into protein, its translocation into the cytoplasm, or any other activity necessary to its overall biological function. The failure of the messenger RNA to perform all or part of its function results in a reduction or complete inhibition of expression of MXR1 polypeptides.--